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(71) Applicant (for all designated States except US): **INTERNATIONAL BUSINESS MACHINES CORPORATION** [—/—]; New Orchard Road, Armonk, NY 10504 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FURUKAWA, Toshiharu** [JP/US]; 9 Oakwood Lane, Essex Junction, VT 05452 (US). **HAKEY, Mark, C.** [US/US]; P.O. Box 13, Fairfax, VT 05454 (US). **HOLMES, Steven, J.** [US/US]; 103 Guildler Lane, #11, Guildlerland, NY 12084 (US). **HORAK, David, V.** [US/US]; 47 Briar Lane, Essex Junction, VT 05452 (US). **KOBURGER, Charles, W., III** [US/US]; 40 Roweland Avenue, Delmar, NY 12054 (US). **NESBIT, Larry, A.** [US/US]; 458 Wildflower Circle, Williston, VT 05495 (US).

(74) Agent: **ANDERSON, Jay, H.**; International Business Machines Corporation, ZIP 482, 2070 Route 52, Hopewell Junction, NY 12533 (US).

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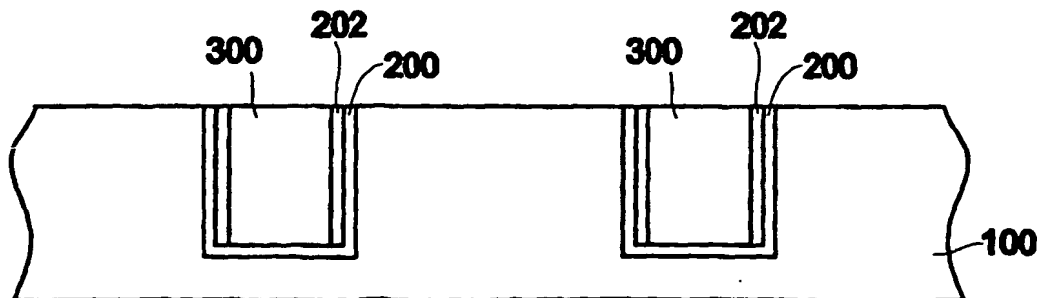
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(54) Title: **CARBON NANOTUBE CONDUCTOR FOR TRENCH CAPACITORS**



(57) Abstract: A trench-type storage device includes a trench in a substrate (100), with bundles of carbon nanotubes (202) lining the trench and a trench conductor (300) filling the trench. A trench dielectric (200) may be formed between the carbon nanotubes and the sidewall of the trench. The bundles of carbon nanotubes form an open cylinder structure lining the trench. The device is formed by providing a carbon nanotube catalyst structure on the substrate and patterning the trench in the substrate; the carbon nanotubes are then grown down into the trench to line the trench with the carbon nanotube bundles, after which the trench is filled with the trench conductor.

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